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IITA Bulletin

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"A Look to the Future" Spring 1997 IITA Conference Set for May 19-21

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The Spring 1997 NASA Information Infrastructure Technology and Applications (IITA) Conference will be held at Lockheed Martin Missiles & Space Company from May 19-21. The theme of the conference will be "NASA Communicating Science: A Look to the Future." Principal investigators, their staff, and NASA staff, will come together to exchange information about their products with industry representatives.

This conference will focus on applications and products that demonstrate the benefits of communicating NASA science to industry, educators, and the public.

The format will include demonstrations by principal investigators and NASA Educational Outreach Centers of IITA's final products to industry re-viewers from Silicon Valley. Reviewers will provide feedback through a panel discussion following the demonstrations. There will also be presentations by principal investigators on their successes in obtaining funding other than their original grants.

All attendees are invited to attend a reception at Space Camp California. Space simulation rides will be available and food and beverages will be served.

For more information visit the website at: **http://developers.ivv.nasa.gov/iitaconf/**

Conference Info on the Web

If you'd like more information about the upcoming Spring 1997 IITA Conference, please see the event's Web page, located at **http://developers.ivv.nasa.gov/iitaconf/**

Additional information on registration, location, air travel and transportation, hotels, meeting rooms, shipping, messages, and points of contact can be viewed there.

IITA Conference Itinerary

Sunday, May 18
Pre-conference social event (optional). First "group" event is a voluntary social gathering at Magic Edge for those who would just like to get together.

Monday, May 19
Theme: "Stating the Focus, Providing the Tools"

8:00 a.m. - 11:30 a.m. Demo set-up
All parties should participate in sessions and not set up demos during the sessions.

11:30 a.m. - 12:30 p.m. Lunch

12:30 p.m. - 1:00 p.m. Welcome from HPCC/IITA/LTP leaders

1:00 p.m. - 2:00 p.m. Keynote Speaker

2:00 p.m. - 4:30 p.m. Forty-minute sessions on IITA "success stories" based on submissions presented to the Conference Committee.

Tuesday, May 20
Theme: "Creating Awareness and Feedback from Industry"

Industry representatives from the following fields and companies have been invited to participate:

* Computer (e.g., Apple, IBM, Sun, SGI)
* Communications (e.g., Netscape, MSN, Excite)
* Educational software (e.g., The Learning Company, Computer Curriculum)
* Publishing (e.g., Wired, Addison Wesley/ Benjamin Cummings, Morgan Hoffman)
* State and federal agencies (e.g., NSF, NOAA, DoED, DOE, State of California, county Offices of Education)
* RSD groups (e.g., Trimble Navigation, other GPS companies)

Each group will have one representative identified to compile and present their opinions at the panel discussion.

9:00 a.m. - 10:00 a.m. Keynote Speaker

10:00 a.m. - 2:00 p.m. Demos (On-site lunch)

2:00 p.m. - 3:00 p.m. Meetings to establish consensus from each respective group. (Representatives will be given a list of thought-starters and questions from which to work.)

3:00 p.m. - 5:00 p.m. Evaluations
Each of the six representatives will be given ten minutes on stage to make general comments about what they and their group have seen. The remaining hour will be for comments from the audience. (Alternately, this could be ten minutes to present, ten minutes for comments from the audience.)

6:00 p.m. - 8:00 p.m. Reception and tour of Space Camp. All participants will be invited. Please RSVP in advance.

Wednesday, May 21
Theme: "Creating the Future"
A day to digest what we've heard, focus on the future, and do follow-up as needed.

9:00 a.m. - 11:00 a.m. Presentations

11:00 a.m. - 11:30 a.m. Summary (wrap-up)

11:30 a.m. - 1:00 p.m. Lunch

1:00 p.m. - 4:00 p.m. Tour of Lockheed Martin

News Bytes

Virtual Take Our Daughters to Work Day Is April 24

Last year, NASA sponsored a highly successful Virtual Take Our Daughters to Work Day. On this day, women engineers and scientists from NASA met online with students, parents, and schools to discuss opportunities for girls in math and science and to offer insight into the professional and personal aspects of their careers.

This year, NASA has extended an invitation to select female leaders from a broad spectrum of professions to participate in the Virtual Take Our Daughters to Work Day. This event will be one of the highest level events in the country, using cutting-edge information technology and highlighting some of the most capable and interesting women in our nation. The event will take place on Thursday, April 24, from 6:00 a.m. to 4:00 p.m. PST.

Scheduled mentors include:

Medical

Susan Love: Director, Santa Barbara Breast Cancer Institute, author of Dr. Susan Love's Breast Book and Dr. Susan Love's Hormone Book.

Hi-Tech

Carol Bartz: CEO of Autodesk Inc., fourth largest PC software company in the world and highest ranking female CEO in the software industry.

News/Media

Judy Woodruff: Prime anchor and senior correspondent, CNN.

Space Exploration/NASA

Donna Shirley: Director of NASA's Mars Exploration Program.

Mae Jemison: NASA astronaut.

Arts/Music

Laurie Sokoloff: First chair, flute and piccolo, Baltimore Symphony Orchestra.

Law

Desiree Cherry: Attorney, Sanbrook and Cherry Law.

International Business

Sue Clymer: Founder and CEO, NichiBei Bio.

Sports

Nancy Ditz: Olympic marathoner, ranked first in marathon in US, two-time winner of Los Angeles Marathon and San Francisco's Bay to Breakers run.

Education

Ruth Simmons: President, Smith College.

These women were selected for their diverse experiences and backgrounds, their success and contributions to their professions, and the impact their communication and dialogue will have on young people. The response we have received from mentors, participants, and the general public toward this event has surpassed our expectations, and we are looking forward to an extraordinary event.

Chats will be held each hour on the hour from 6:00 a.m. to 4:00 p.m. PST for forty-five minutes each. To keep the dialogue successful, only a limited number of participants will be allowed to "chat." All others can observe the page and dialogue. Anyone interested in actively participating must preregister for the chats. The complete schedule and information on registration will be posted on the Web at: **http://quest.arc.nasa.gov/women/TODTWD/overview.html** after April 10.

This bulletin will also be available in Adobe Acrobat format on the Developers' Workshop Web site at: **http://developers.ivv.nasa.gov/collab/pubs/bulletin/**

CAT in the Spotlight

A New Way to Use the Science Information Infrastructure

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The Science Information Infrastructure project announces its new public user interface, the Science Education Gateway Web site, located at: **http://www.cea.berkeley.edu/Education/SII/SEGway**

SEG-way is the gateway to:

* Online lesson modules in Earth and space science. Complete teacher-developed lessons based on NASA science that you won't find in any textbook!

* Grab Bags of stand-alone activities, images, and interactive features.

* Tools and guidelines for constructing new lessons and activities from the Grab Bags or your favorite Web resources--create a program tailored to your curriculum.

The SII project draws on over three years of experience in producing online materials. Lesson modules are developed, tested, and refined by teachers, working with participating science museums and researchers.

A New Design Focused on Users' Needs

In response to feedback from pilot testing programs, SEG-way features several types of resources, organized into tiered "toolkits."

On opening the site, users can choose areas titled Space Science, The Solar System, Sun & Earth, Weather, Light, or Cycles.

Each toolkit is anchored by several lesson modules based on NASA missions and research programs. Devised by teachers for their own classrooms, each module is a self-sufficient mini-site that utilizes the Internet for self-guided discovery, research and problem solving, and interaction with other sites and students. Each module is pro-

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CAT in the Spotlight (Cont.)

vided by a museum or research partner, and partner sites are linked to each toolkit page for direct access to frequently used modules.

Module title pages specify an approximate range of appropriate grade levels, estimated time, and material requirements. Students and home users can access module activity pages directly, while separate pages for teachers supply guidelines and suggestions for the classroom content.

Here's a sample of the module subjects available:

* Light: Study the electromagnetic spectrum and how astronomers use different wavelengths
* Cycles: Plot trends and fluctuations in the Antarctic ozone
* Space Science: Learn how data get from a satellite in space to a scientist on the ground
* Sun & Earth: Search for frozen water reserves to stave off a drought
* Weather: Understand how, why, and where auroras happen
* Solar System: Find out what scientists learn from satellite images--by doing it with the experts!

The second tier of each toolkit is a "Grab Bag" section with shorter, featured items from the modules and other useful resources. In contrast to the structured lesson modules, these items provide illustration, motivation, or instruction that can be used in many different ways. Many are interactive, returning information "on the fly" from other Internet sites. Use them to complement your program or interests. A few examples:

* Details of how to make a comet (what's in one, anyway?) or build a seismograph
* Watch kids simulate a satellite's data transmission
* Image galleries of the Earth and solar system
* Test your knowledge of geography and Earth imaging
* Get current auroral forecasts and weather on Mars
* Order real-time position data for a satellite
* Share "testimony" about gamma rays or X-rays: are they good? bad? useful? dangerous?

The third tier provides tools for anyone who wishes to make their own new NASA science modules. Creating a resident "mini-site" can help keep students' Web searches within a targeted set of sites and pages, making more efficient use of limited Internet access.

* Use a starter template of basic HTML pages to organize material and set up pathways of navigation.
* Use "Talk of the Town" to start a structured online discussion and help students exchange information electronically.
* Search sites of NASA research centers for data and contacts in your area of interest.

The Science Education Gate-way is new, and will continue to evolve. We hope you'll try these materials and send your questions, feedback and suggestions to us at the University of California, Berkeley. Just send e-mail to outreach@cea.berkeley.edu; a link is included in each toolkit page. The project relies on and uses feedback about successes, problems, and curricular and technical needs in creating these resources. The experiences of users, especially teachers who use these resources with their own students, help us to continue to foster an effective partnership between NASA science and education.

The Science Education Gate-way is part of the Science Information Infrastructure, and is funded by NASA Grant NAG5-2875 to UCB/CEA.

Nothin' but Net

How to Make WWW Pages Accessible to Users with Physical Disabilities

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Authors' note: What we describe here are not absolute requirements. These are only guidelines that should help in making pages accessible to physically disabled users. These guidelines will change as new advancements occur in adaptive hardware and software.

Please see the "Design of Accessible Web Pages" document, located at **http://www.infouse.com/disabilitydata/guidelines.html,** for further information on these items.

* Critical elements should be in the fore ground.
* Make language as simple and straightforward as possible.
* Use single column text layout.
* Buttons and icons should be at least 1" long by .5" high.
* Order buttons in a logical screen order.
* As much as possible, recurring screen elements (icons, text, buttons, etc.) should be located in a consistent area on the screen from page to page.
* Elements that require user interaction (buttons, menus, etc.) should be located near an edge of the screen.
* Provide ALT tags for all graphics.
* If the caption is not a part of the button itself, use some standardized spatial relationship so that the location of a label for a button (or a button for a label) is predictable.
* Use high contrast between text and background — dark shades of blue, violet, purple, or black for text; light shades of blue-green, green, yellow, or orange for background.
* Text should be placed only on non-patterned backgrounds.
* Make color coding redundant with other means of conveying information.

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Nothin' but Net (Cont.)

* Eighteen to twenty-four point type is recommended for all essential text.
* The program should provide on-screen verification of user selection (highlight, auditory feedback, etc.).
* The user should have the option of having text read by the computer, either through compatibility with screen readers or through built-in text reading capability.
* Avoid using any loud noises.
* Provide all auditory information in a redundant text transcript.
* Use the TAB key or arrow keys to move among choices on-screen.
* For movies, embed captions in the data structure for the movie or have an alternate version of the movie available with open (permanent) captions.
* Have an alternate form of movies with the descriptive narration included in the audio track.
* Avoid screen flash rates above two hertz.
* Keep layouts simple and straightforward.
* Avoid side by side presentation of text.
* Avoid using graphics to provide organization or structure to the document OR use an alternate page which presents the same information in text format to allow for accessibility by adaptive software or hardware.
* Use large, strategically placed (e.g., near the top of a page) buttons instead of links embedded within text.
* Design any image map so that the parts of the picture are large enough to be accessed easily, and are primarily arranged near an edge of the screen for maximum accessibility.
* Have an option for a text-only page that presents an alternate form of the entire page and replaces the image map with a text version optimized to work within the layout of the page.
* ALWAYS use logical styles (e.g., <STRONG>) over physical styles (e.g., <B>). (See list in "User Interaction Design Guidelines Document.")
* Design Web pages so that typing Page Up and Page Down scrolls in roughly half-page increments.

Let Your Web Site Move Toward a More Diverse Audience

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In this vast world of rapid changes and diverse influences, it often seems that we are moving farther apart instead of getting closer together. We tend to get lost in the shuffle, mixed with a spoonful of apathy and a smidgen of complacence. As we draw away from each other in ever-increasing proportions, we lose that unity that ties us together as the whole of humanity.

Being able to reach out to a more diverse audience is the goal of a good article, Web page, or work of art. The target audience must be identified, examined, and known. People are always attracted to the things that they find most interesting, but beyond that, we must find ways to shed light on and bring together a whole world of differing beliefs and attitudes. If we intend to make an impact on a lot of people, there are a few guidelines that we must follow:

Geographical Diversity. Just because someone from New York knows something about Staten Island, it doesn't mean that a person from Albuquerque will. Keep your references centered on internationally recognized locations.

Demographic Diversity. No two people are alike. Tune your text to fit language differences as well as cultural differences. Try a translation program or a multilanguaged script. Are you generalizing for a certain age, gender, racial, or ethnic stereotype?

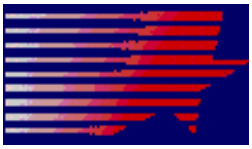
Political Diversity. How do people stand on the issues? What do you want to inform (or persuade) the audience of? Is your information appropriate? Make sure you don't put anything in your article or Web page that could be considered offensive. Always strive for realistic and accurate portrayals of characters.

These are just some of the ways in which to categorize the diversity of your audience. There are many more sub-diversities to consider, including educational orientation and environmental influences.

When you have decided which direction to take, attack! The best defense is a good offense. Provide your information in a clear and concise manner. Have easy-to-understand text and match pictures to that text. Let your audience know that you mean business and present all (or at least the basics) of your information up front.

Finally, care about what you are trying to portray. Are you providing an honest, meaningful work of art? The old phrase "Let your heart be your guide" rings true as you try to make a lasting impression on those who view your ideas. Give your diverse audience something they can take with them — a wonderful experience.

If you would like to be on the IITA Bulletin mailing list, please send e-mail to Scott Gillespie at: sgillespie@rspac.ivv.nasa.gov, or write to: BDM/RSPAC, 100 University Drive, Fairmont, WV 26554. Phone: (304) 367-8324, fax: (304) 367-8211.

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